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# Facsimile Cover Sheet

**To:** Examiner Julian Mercado  
**Company:** The United States Patent and  
Trademark Office  
**Phone:** (703) 305-0511  
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**From:** Thomas J. Osborne, Jr.  
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**Date:** September 21, 2000  
**Pages including this cover page:** 12

**Comments:** Re Serial No. 09/275,495; P&G Case No. 7081M

Examiner Mercado,

Attached are copies of the Information Disclosure Statement and the Supplemental Information Disclosure Statement that you requested because the original statements and references, although noted in the file, are not in the file. You have also requested copies of the non-United States patent references cited in the statements. As you can see there are numerous non-United States patent references that would be difficult to fax. I will send a second copy of these references separately through the mail. If you have any further questions or requests, please contact me at the number listed above.

Sincerely yours,



Thomas J. Osborne, Jr.  
Reg. No. 39,796

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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231 on September 2, 1999

Thomas J. Osborne, Jr. 39,796  
Name of Attorney Registration No.  
Thomas J. Osborne, Jr.  
Signature of Attorney

Case 7081M

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the Application of :

VLADIMIR GARTSTEIN, ET AL. :

Serial No.: 09/275,495 :

Group Art Unit: 1745

Filing Date: March 24, 1999 :

Examiner:

For: BATTERY HAVING A :

BUILT-IN CONTROLLER :

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Assistant Commissioner for Patents

Washington, D.C. 20231

Dear Sir:

Pursuant to 37 CFR §§1.56, 1.97 and 1.98, record is being made below of documents which the Patent Office may wish to consider in connection with examination of the above-identified patent application. As provided in §1.97(g), no representation is made or intended that a thorough art search was made. As provided in 37 CFR §1.98(h) this Information Disclosure Statement does not constitute an admission of any kind and specifically is not an admission that the commonly assigned co-pending applications listed below are, or are considered to be, material to the patentability of the above-identified patent application, as defined in 37 CFR §1.56(b).

It is respectfully requested that the commonly assigned co-pending applications be carefully considered by the Examiner and made of record in the case.

COMMONLY ASSIGNED CO-PENDING APPLICATIONS

In accordance with 37 C.F.R. §§1.97 and 1.98 and M.P.E.P. §2001.06(b), Applicants submit the following co-pending commonly assigned cases as being of potential interest in the examination of the subject application.

U.S. Patent Application Serial No. 09/054,192 (7078), entitled PRIMARY BATTERY HAVING A BUILT-IN CONTROLLER TO EXTEND BATTERY RUN TIME, filed April 2, 1998, in the name of Gartstein, et al.;

I hereby certify that this correspondence is being deposited with the United States Postal Service or first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231 on July 30, 1999

Thomas J. Osborne, Jr. 39,796  
Name of Attorney Registration No.  
Thomas J. Osborne, Jr.  
Signature of Attorney

Case 7081M

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the Application of :  
VLADIMIR GARTSTEIN, ET AL. :  
Serial No.: 09/275,495 : Group Art Unit: 1745  
Filed: March 24, 1999 : Examiner:  
For: BATTERY HAVING A BUILT-IN :  
CONTROLLER :

**INFORMATION DISCLOSURE STATEMENT**

Assistant Commissioner for Patents  
Washington, D.C. 20231

Dear Sir:

Pursuant to 37 CFR §§1.56, 1.97 and 1.98, record is being made below of documents which the Patent Office may wish to consider in connection with examination of the above-identified patent application. As provided in §1.97(g), no representation is made or intended that a thorough art search was made. As provided in 37 CFR §1.97(h) this Information Disclosure Statement does not constitute an admission of any kind and specifically is not an admission that the documents listed on attached form PTO-1449 are, or are considered to be, material to the patentability of the above-identified patent application, as defined in 37 CFR §1.56(b).

Copies of the cited documents are attached. It is respectfully requested that the documents be carefully considered by the Examiner and made of record in the case.

Respectfully submitted,

For: VLADIMIR GARTSTEIN, ET AL.

By Thomas J. Osborne, Jr.  
Thomas J. Osborne, Jr.  
Attorney for Applicant(s)  
Registration No. 39,796  
(513) 634-6035

July 30, 1999  
Cincinnati, Ohio  
ida-1.doc

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LIST OF DOCUMENTS CITED BY APPLICANTS (Use several sheets if necessary)	ATTY. DOCKET NO. 7081M	SERIAL NO. 09/275,495
	APPLICANT Vladimir Gartstein, et al.	
	FILING DATE 3/24/98	GROUP 1745

## U. S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	4,084,124	4/11/78	Kapustka	320	9	
	4,105,862	8/8/78	Scott Jr. et al.	320	32	
	4,121,115	10/17/78	de Méré	307	150	
	4,208,736	6/24/80	Reidenbach	320	22	
	4,288,836	9/15/81	Lemelson	429	61	
	4,298,461	10/20/81	Mallory et al.	363	22	
	4,433,278	2/21/84	Lowndes et al.	320	48	
	4,451,743	5/29/84	Suzuki et al.	307	110	
	4,542,330	9/17/85	Terbrack	323	222	
	4,563,627	1/7/86	Orban	320	19	
	4,611,161	9/9/86	Barker	320	2	
	4,633,378	12/30/86	Oda et al.	363	19	
	4,686,444	8/11/87	Park	320	31	
	4,716,354	12/29/87	Hacker	320	39	
	4,727,006	2/23/88	Malinowski et al.	429	50	
	4,737,702	4/12/88	Koenck	320	40	
	4,771,228	9/13/88	Jones	323	303	
	4,816,737	3/28/89	Delmas et al.	320	35	
	4,818,928	4/4/89	Schossner	320	2	
	4,998,056	3/5/91	Cole	320	35	
	5,006,881	4/9/91	Kodama	354	484	
	5,032,825	7/16/91	Kuznicki	340	636	
	5,045,768	8/3/91	Pelly	320	2	
	5,161,097	11/3/92	Ikeda	363	124	

## FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANSLATION YES NO
WO 93/23887	11/25/93	PCT	H01M	8/10	
WO 94/00888	1/6/94	PCT	H01M	10/48	
WO 97/13189	4/10/97	PCT	G06F	1/26	
WO 97/18588	5/22/97	PCT	H01L	27/02	
0 546 872	6/16/93	Europe	H02J	7/10	
0 624 844	7/29/98	Europe	H02J	7/36	

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

	Allen, Charlie, CMOS curbs the appetite of power-hunger dc-dc converter chips, Electronic Design, 11/14/85, pp. 175-79.
	Allen, Charlie, DC/DC chip for low power circuit efficiency, Electronic Product Design, 8/86, pp. 29-32.
	Arbetter, Barry and Maksimovic, Dragan, Control Method for Low-Voltage DC Power Supply in Battery-Powered Systems with Power Management, IEEE 1987, pp. 1198-1204.
EXAMINER	DATE CONSIDERED
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EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	5,168,206	12/1/92	Jones	320	31	
	5,204,608	4/20/93	Koenck	320	2	
	5,206,097	4/27/93	Burns et al.	429	90	
	5,216,371	8/1/93	Nagai	324	428	
	5,218,284	6/8/93	Burns et al.	320	14	
	5,245,269	9/14/93	Tooley et al.	320	35	
	5,247,238	9/21/93	Yang	320	35	
	5,248,929	9/28/93	Burke	320	48	
	5,258,239	11/2/93	Kobayashi	429	27	
	5,264,301	11/23/93	Sindorf et al.	429	53	
	5,280,420	1/18/94	Rapp	383	60	
	5,296,765	3/22/94	Williams et al.	307	572	
	5,304,431	4/19/94	Schumm, Jr.	429	27	
	5,338,236	8/16/94	Tamagawa	383	59	
	5,343,088	8/30/94	Jeon	307	296.2	
	5,355,073	10/11/94	Nguyen	320	15	
	5,394,385	2/28/95	Tsukikawa	385	189.09	
	5,446,367	8/29/95	Pinney	323	266	
	5,449,568	9/12/95	Schumm, Jr.	429	27	

## FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANSLATION	
						YES	NO
	0 653 798	5/17/95	Europe	H01M	10/46		
	0 653 841	5/17/95	Europe	H03K	17/16		
	10-262385	9/29/98	Japan	H02M	3/155		X
	10-284098	10/23/98	Japan	H01M	8/04		X
	10-285809	10/23/98	Japan	H02J	7/00		X
	10-285820	10/23/98	Japan	H02J	7/10		X
	61-294,754	12-25-86	Japan	H01M	2/02		
	726608	5/4/80	Russian	H01M	10/48		

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

	Goodenough, Frank, Off-Line and One-Cell IC Converters Up Efficiency, Electronic Design, 6/27/94, pp. 55-64.
	Iwata, T. Yamauchi, H. Akamatsu, Y. Terada, A. Matsuzawa, Gate-Over Driving CMOS Architecture for 0.5V Single-Power-Supply-Operated Devices, IEEE 1997, pp. 290-91 and 473.
	McClure, M., Constant Input Power Modulation Technique for High Efficiency Boost Converter Optimized for Lithium-Ion Battery Applications, IEEE 1998, pp. 850-55.
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EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	5,489,183	3/12/96	Kobatake	363	59	
	5,541,016	7/30/96	Schumm, Jr.	429	27	
	5,541,489	7/30/96	Dunstan	320	2	
	5,541,490	7/30/96	Sengupta et al.	320	14	
	5,557,188	8/17/96	Piercey	320	5	
	5,560,999	10/1/96	Pedicini et al.	429	27	
	5,561,361	10/1/96	Sengupta et al.	320	14	
	5,563,004	10/8/96	Buzzelli et al.	429	27	
	5,585,758	10/15/96	Dunstan	320	48	
	5,583,415	12/10/96	Fernandez et al.	320	15	
	5,590,419	12/31/96	Shimo	455	127	
	5,591,212	1/7/97	Keimel	607	5	
	5,592,089	1/7/97	Dias et al.	320	30	
	5,600,230	2/4/97	Dunstan	320	48	
	5,606,242	2/25/97	Hull et al.	320	48	
	5,610,450	3/11/97	Saeki et al.	307	46	
	5,619,430	4/8/97	Nolan et al.	364	557	

## FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANSLATION YES NO
GB 2 270 793	3/23/94	United Kingdom	H01M	10/44	

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

	Mohandes, B., MOSFET Synchronous Rectifiers Achieve 90% Efficiency - Part II, PCIM, July 1991 pp. 55-61.
	Moore, B., Regulator topologies standardize battery-powered systems, EDN, 1/20/94, pp. 59-64.
	Neil, C., Smart Battery Power, Australian Electronics Engineering, April 1996, pp. 34-38.
	Travis, B., Low-voltage power sources keep pace with plummeting logic and $\mu$ P voltages, EDN, 9/26/96, pp. 51-62.
	Williams, R., Mohandes, B. and Lee, C., High-Frequency DC/DC Converter for Lithium-Ion battery Applications Utilizes Ultra-Fast CBiC/D Process Technology, IEEE 1995, pp. 322-332.
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EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	5,633,573	5/27/97	van Phuoc et al.	320	5	
	5,645,949	7/8/97	Young	429	7	
	5,646,508	7/8/97	van Phuoc et al.	320	30	
	5,656,876	8/12/97	Radley et al.	307	150	
	5,675,232	10/7/97	Koenck	320	2	
	5,689,178	11/18/97	Otake	323	282	
	5,694,024	12/2/97	Dias et al.	320	30	
	5,710,501	1/20/98	Van Phuoc et al.	320	2	
	5,714,863	2/3/98	Hwang et al.	320	1	
	5,731,686	3/24/98	Malhi	320	35	
	5,747,189	5/5/98	Perkins	429	91	
	5,783,322	7/21/98	Nagai et al.	429	7	
	5,825,156	10/20/98	Patillon et al.	320	21	
	5,831,418	11/3/98	Kitagawa	323	222	
	5,837,394	11/17/98	Schumm, Jr.	429	27	

## FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANSLATION YES NO

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

	Yamauchi, H, Iwata, T., Akamatus, H. and Matsuzawa, A., A 0.5V/100MHz Over-Vcc Grounded Data Storage (OVGS) SRAM Cell Architecture With Boosted Bit-line and offset Source Over-Driving Schemes, 1996 International Symposium on Low Power Electronics and Design, 8/12-14/96, pp. 49-54.
	Zhou, X., Wang, T. and Lee, F., Optimizing Design for Low voltage DC-DC Converters, IEEE 1997, pp. 812-816.
	Aguiar, C., Canales, F., Arau, J., Sebastian, J. and Uceda, J., An Integrated Battery Charger/Discharger with Power-Factor Correction, IEEE Transactions on Industrial Electronics, Oct. 1997, pp. 597-603.
	Favrat, P., Paratte, L., Ballan, H. Declercq, M. and deRoof, N., A 1.5-V-Supplied CMOS ASIC for the Actuation of an Electrostatic Micromotor, IEEE/ASME Transactions on Mechatronics, Sept. 1997, pp. 153-160.
	Wolfgang, G. and Lindemann, R., New Topology for High Efficient DC/DC Conversion, Power Conversion, May 1996, pp. 503-512.

EXAMINER

DATE CONSIDERED

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## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

	Lachs, W., Sutanto, D. and Logothetis, D., Power System Control in the Next Century, IEEE Transactions on Power Systems, Feb. 1998, pp. 11-18.
	Wells, Eddy, Integrated Boost Controller Extends alkaline usage, Electronic Design, 11/17/97, v. 45, n. 25, p. S54(1).
	Stratakos, Anthony, High-Efficiency Low-Voltage DC-DC Conversion for Portable Applications, University of California, Berkeley, Department of EECS, <a href="http://bob.eecs.berkeley.edu">http://bob.eecs.berkeley.edu</a>
	Alfano, Don, Dc/Dc converters for battery-operated systems: Charge pump or switcher?, Electronic Products, August 1998
	Douseki, Takakuni, et al., A 0.5-V MYCMOS/SIMOX Logic Gate, IEEE Journal of Solid-State Circuits, v. 32, no. 10, pp.1604-09, October 1997.
	Wang, Chi-Chang, et al., Efficiency Improvement in Charge Pump Circuits, IEEE Journal of Solid State Circuits, vol. 32, No. 6, June 1997, pp. 852-60.
	Sherman, Len, DC/DC converters adapt to the needs of low-power circuits, EDN, January 7, 1998, pp.145-52.
	Heacock, David, and Freeman, David, Capacity Monitoring in Advanced Battery Chemistries, IEEE, 1995 (0-7803-2459-5/95).
	Matsuya, Yasuyuki, et al., Low-Voltage Supply A/D, D/A Conversion Technology, Institute of Electronics, Information and Communications, Engineers Technical Report of IEICE, August 1994.
	Yamasaki, Mikio, et al., High-efficiency power source with low input voltage, National Meeting Fall 1989, Institute of Electronics and Communication Engineers of Japan, pp. 3-276; 277.
	Kida, Junzo, et al., Performance of DC-DC converter under battery load, Doshisha University, PE 90 37, Serial No. 0005, pp. 28-35.
	Tsukamoto, Kazuo, et al., Low-power dissipation technology of control circuit for battery-input-type power source, Technical Report of IEICE, PE 94-71 (1995-03), The Institute of Electronics, Information and Communication Engineers.
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